



HAWAII STATE  
DEPARTMENT  
OF HEALTH

# 2022 KAUAI CASPER Preliminary Report

PREPARED AND PRESENTED BY:

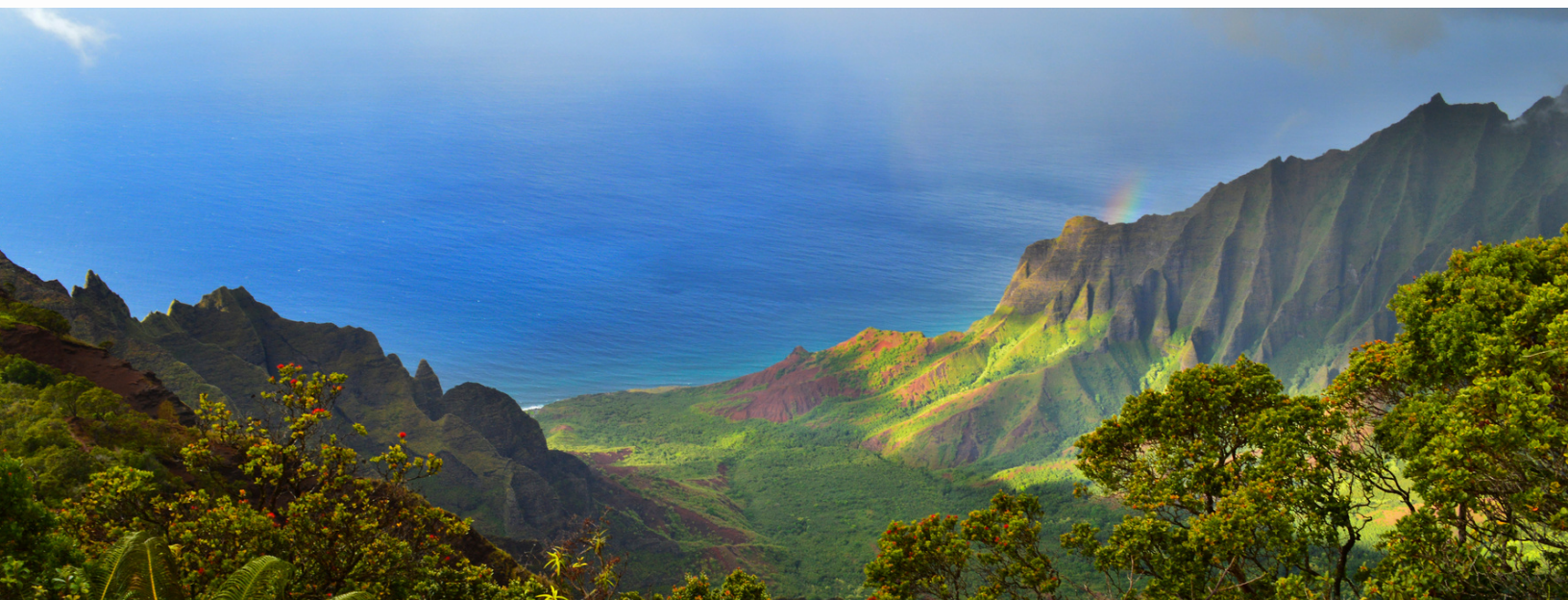
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## ASSESSING KAUAI'S COVID-19 RESPONSE EFFORTS AND CURRENT HOUSEHOLD PREPAREDNESS

A community assessment for public health emergency response (CASPER) was conducted on Kauai in July 2022 by the Hawaii State Department of Health's Kauai District Health Office. CASPER is a validated two-stage cluster sampling methodology developed by the Centers for Disease Control and Prevention (CDC) to rapidly obtain information about the health and resource needs of a community that is generalizable to the entire sampling frame (population-based estimates).

The Kauai District Health Office (KDHO) conducted CASPERs annually from 2017-2019 to monitor trends in the emergency preparedness of island residents. Through these efforts, over 60 HDOH staff and volunteers were trained. This resource was tapped in April 2020 to assess the early impacts of the pandemic on our community. The survey protocol was adapted to ensure the safety of surveyors and participants as well as compliance with physical distancing requirements. KDHO did not conduct a CASPER in 2021 due to all available resources being heavily invested in direct COVID response and vaccine rollout efforts. Kauai's 2022 CASPER attempted to bridge this gap and included an assessment of: the ongoing impacts of the pandemic; the community's perception of Kauai's COVID-19 response efforts; and emergency preparedness and evacuation plans.



# Methods

CASPER is a two-stage cluster sampling methodology. The first stage, cluster selection, begins with the determination of a sampling frame, or the area from which the sample is selected and to which the data is generalized. Once the sampling frame is determined, thirty census blocks (termed “clusters”), are randomly selected. The probability of a census block being selected is proportional to the number of housing units located within it.

The second stage of sampling, household selection, involves systematic selection of seven households per cluster. Homes are selected by dividing the total number of housing units in the cluster by seven (the target number of surveys per cluster) to determine each cluster’s sequence number (“n”). Survey teams then attempt to interview every “nth” house, with an ultimate target of 210 surveys (30 clusters x 7 surveys per cluster).

For this assessment, the sampling frame was occupied households on the island of Kauai. 2020 census block data were used to select 30 clusters via random number generation. Kauai has a total of 1,344 census blocks, 30,157 housing units, 24,712 occupied housing units, and a population of approximately 73,000.

As a major tourist destination, many housing units are not occupied by residents and are classified as “vacant” in census data. To better capture data representative of Kauai residents, cluster selection used occupied housing unit data to reduce the likelihood of selecting clusters with primarily short-term vacation rentals.



Survey planners utilized satellite imagery and Kauai County Real Property tax map data to pre-select households. Within ArcGIS, random starting points were generated within each cluster. Researchers used these points, along with Kauai County tax parcel shapefiles, to enumerate and select housing units using each cluster's assigned sequence number.

Researchers continued in a serpentine manner until seven primary households and five replacement households were selected in each cluster. Survey teams were supplied with a detailed map of their cluster and their selected household addresses upon deployment. This methodology saved significant time in the field and ensured that the household selection process was rigorously adhered to.

From July 26-30, twenty-four survey teams conducted door-to-door surveys in the thirty randomly selected clusters. Survey teams were comprised of HDOH staff with support from volunteers of the Kauai Medical Reserve Corps and the American Red Cross. Selected households were offered the opportunity to participate in a physically distanced outdoor interview or a phone interview.



Participating households were provided drawstring backpacks, first aid kits, flashlights, COVID-19 antigen tests, waterproof bags for storage of important documents and educational materials on COVID-19, monkeypox, and emergency preparedness.

# Results

Survey data were collected electronically via tablets using the EpiCollect 5 application. Entries were uploaded upon return to the operations center. Data was analyzed using Epi Info 7 software. Survey teams attempted to contact 338 households, spoke with a resident at 228 households, and completed 176 interviews, producing the following rates:

**Completion rate: 83.81%**

(completed interviews/ 210)

**Cooperation rate: 77.19%**

(completed interviews/ contacted households)

**Contact rate: 52.07%**

(completed interviews/ attempted households)

During analysis, each survey was assigned a weight to account for the likelihood of that household being selected for participation. Data points discussed throughout this report refer to weighted estimates to ensure representativeness of the sampling frame (Kauai island occupied housing units). Survey results are grouped by subject matter and are summarized on the following pages.

## BASIC HOUSEHOLD INFORMATION

Question	Own(%)	Rent(%)	Don't Know (%)	Other(%)
<i>Does your household own or rent this residence?</i>	73.78	25.11	0.00	1.11

Question	Yes(%)	No(%)	Don't Know (%)	Other(%)
<i>Is anyone in your household pregnant?</i>	1.70	97.27	1.03	0.00

Question	Yes(%)	No(%)	Don't Know (%)	Other(%)
<i>Is there an adult in your household who does not speak English?</i>	3.64	96.36	0.00	0.00

Of those households with adults who did not speak English, the most common languages identified included Tagalog and Ilocano.

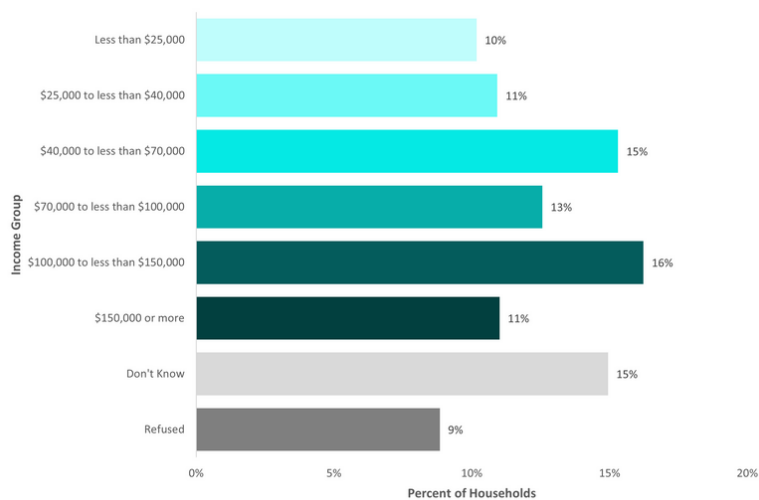
## HOUSEHOLD COMPOSITION

The average household size was **3 persons per household**.

**8.29%** of households reported **at least one child under 2 years** old and **54.27%** of households reported **at least one adult over 65 years** old living at their residence.

**21.10%** of households indicated they made less than **\$40,000** before taxes in 2021 (Figure 1).

Figure 1: 2022 Combined Household Income



## EMERGENCY PLANS AND SUPPLIES

### ASSISTANCE NEEDS

PERCENT (%)  
HOUSEHOLDS

*Does anyone in your household require assistance during an emergency?* **23.86**

#### Type of assistance needed:

ADA accessible accommodations	8.16
Refrigeration for essential medication	9.40
Electricity for a medical device	9.40
Caregiving assistance due to a disability/illness	7.25
Hospital/home care bed	2.54
Paratransit service	3.10
Other	1.03

### ASSISTANCE PREPAREDNESS

PERCENT (%)  
HOUSEHOLDS

*If applicable, how prepared are you to care for your household member(s) that require assistance during an emergency?*

Very prepared	47.20
Somewhat prepared	31.33
Not prepared	15.43
Don't know	6.04

### EMERGENCY PLANS

YES (%)

*Does your household have the following emergency plans?*

Communication plan	56.66
Designated meeting place immediately outside your home	51.39
Copies of important documents in a safe location	75.21

### EMERGENCY SUPPLIES

YES (%)

*Does your household have the following emergency supplies?*

Emergency supply kit	77.48
A first aid kit	85.18
An emergency generator	32.62
An emergency radio	53.84

WATER STORAGE	YES (%)	FOOD STORAGE	YES (%)	MEDICATION	YES (%)
<i>Does your household currently have enough water stored for:</i>		<i>Does your household have enough nonperishable food for:</i>		<i>Does anyone in your household require prescription medication?</i>	
3 days	68.21	3 days	89.96	Yes	63.44
If yes, 7 days?	65.96	If yes, 7 days?	74.42	If yes, 7 days worth?	94.68
If yes, 14 days?	51.72	If yes, 14 days?	62.19	If yes, 14 days worth?	92.87

EMERGENCY KIT BARRIERS	PERCENT (%) HOUSEHOLDS	EVACUATION BARRIERS	PERCENT (%) HOUSEHOLDS
<i>What main barrier does your household face in assembling an emergency kit?</i>		<i>What barrier might prevent your household from evacuating for a natural disaster when advised to?</i>	
Cost of assembling kit	5.83	Concern of leaving property vacant	3.57
Lack of storage space for kit	7.36	Lack of transportation	2.34
Lack of knowledge regarding what is needed in a kit	4.98	Uncertainty about where to go	11.29
Lack of time to shop and assemble	1.98	Health or mobility issues	1.14
No barrier (kit assembled)	50.44	Concern about leaving pet(s)	7.83
No barrier (hasn't gotten around to it)	25.44	Inconvenient or expensive	1.43
Don't know	2.82	Other	4.29
Other	1.14	No barriers (household will evacuate)	49.41
		No barriers (household won't evacuate)	12.68
		Don't know	6.01

HURRICANE SHELTER	SHELTER IN PLACE (HOME) (%)	FRIEND/FAMILY HOME (%)	PUBLIC SHELTER (%)	OTHER (%)	DON'T KNOW (%)
<i>If Kauai was threatened by a hurricane, where would your household seek shelter for each storm category?</i>					
Category 1 (75-95 mph)	81.45	8.24	6.54	0.48	3.29
Category 2 (96-110 mph)	72.29	10.97	10.71	1.43	4.60
Category 3 (111-129 mph)	58.10	14.45	19.31	1.90	6.23
Category 4 (130-156 mph)	49.41	15.96	25.66	1.90	7.06
Category 5 (157+ mph)	42.99	16.71	27.44	2.38	10.47

DISASTER PREPAREDNESS	YES (%)	NO (%)	DON'T KNOW (%)
<i>Does your household have hurricane/ high wind insurance?</i>	62.29	13.79	23.91
<i>Has anyone in your household signed up to receive weather and other disaster-related alerts?</i>	67.12	27.34	5.54
<i>Is your household familiar with the Kauai Emergency Management Agency's website?</i>	56.13	39.83	4.04

TSUNAMI EVACUATION	YES (%)	NO (%)	DON'T KNOW (%)	REFUSED (%)
Are you familiar with the tsunami evacuation zones on Kauai?	69.93	27.81	2.26	0.00
<i>If no, do you know where to find that information?</i>	44.55	48.48	4.75	2.22

TSUNAMI EVACUATION	PERCENT (%) HOUSEHOLDS
<i>For many tsunami events, officials may not be able to open tsunami refuge areas or evacuation shelters. If you are in a tsunami evacuation zone when a tsunami warning is issued, what action would you take?</i>	
Evacuate inland to higher ground	88.99
Ignore evacuation order	3.37
Other	3.60
Don't know	4.04

## COVID-19 PANDEMIC RESPONSE PERCEPTIONS

COVID-19 CONCERNS	VERY CONCERNED (%)	SOMEWHAT CONCERNED (%)	NOT CONCERNED (%)	DON'T KNOW (%)
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<i>How concerned are you about your household members getting sick with COVID-19?</i>	33.80	35.47	28.92	1.81
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<i>How concerned are you about your household's ability to pay the next month's rent or mortgage?</i>	9.07	8.31	79.14	2.92
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MENTAL HEALTH	YES (%)	NO (%)	DON'T KNOW (%)	REFUSED (%)
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<i>Has anyone in your household experienced emotional distress related to the pandemic?</i>	36.10	61.26	2.64	0.00
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<i>If yes, has anyone in your household sought mental/ behavioral support?</i>	16.25	80.89	1.54	1.32
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INCOME COMPARISON	PERCENT (%) HOUSEHOLDS
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*How does your household income now compare with what it was before the pandemic?*

A lot less	13.31
A little less	10.79
About the same	59.61
A little more	9.04
A lot more	3.21
Don't know	3.56
Refused	0.48

MASK PERCEPTIONS	PERCENT (%) HOUSEHOLDS
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*How important do you think it is to continue to wear a mask indoors in places other than your home?*

Very important	46.99
Somewhat important	35.52
Not important	15.50
Don't know	1.51
Refused	0.48



## COMMUNITY RESOURCES

PERCENT  
HOUSEHOLDS (%)

PERCENT  
HOUSEHOLDS (%)

Which of the following community resources has your household received during the pandemic?  
(check all that apply)

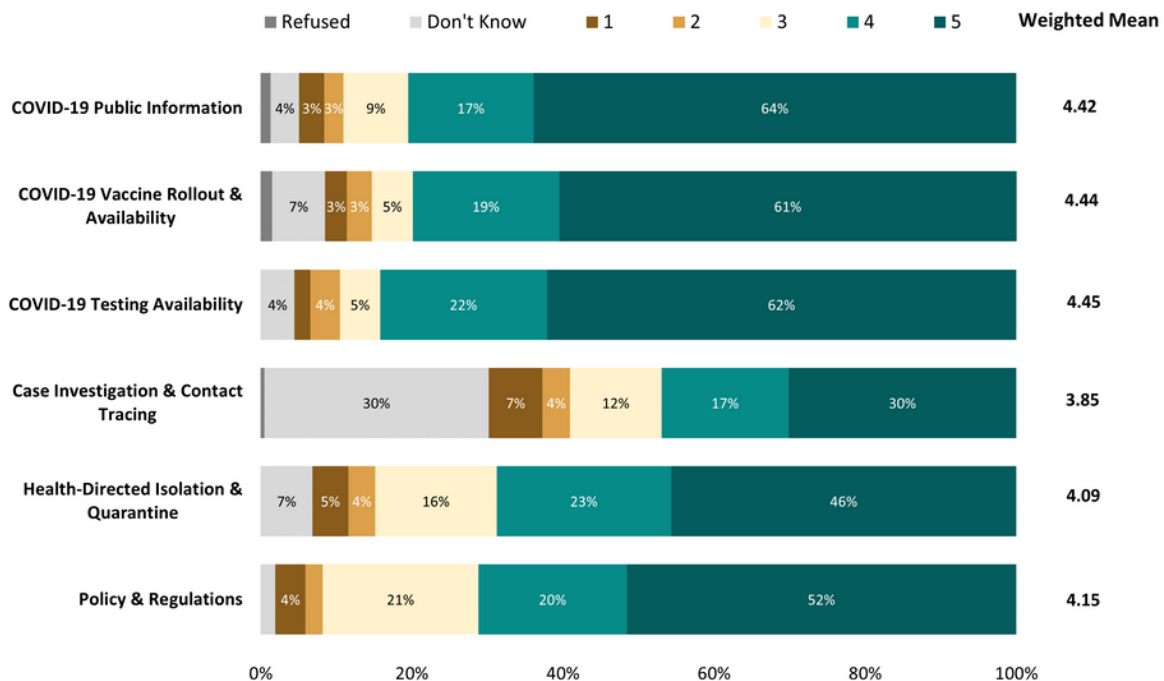
Food distribution programs	20.36	Other	1.11
Unemployment benefits	19.53	None of the above	60.13
WIC/SNAP/Da Bux	9.40	Don't know	0.48
Rent/utilities assistance	3.68	Refused	0.48
Mortgage forbearance	2.17		

## PANDEMIC RESPONSE

PERCENT  
HOUSEHOLDS (%)

REFUSED (%)

On a scale of 1-5, with **1 being very poor** and **5 being very good**, how would you rate Kauai's response to the pandemic in the following areas:



## COVID-19 VACCINES

### UNDER 5 VACCINATION

PERCENT  
HOUSEHOLDS (%)

PERCENT  
HOUSEHOLDS (%)

COVID-19 vaccines are available to all Kauai residents 6 months of age and older, with vaccines only recently being authorized for those 6 months through 4 years. For your household members under the age of 5, did you already get them vaccinated?

Yes, right away/have an appointment	2.54	Not applicable	80.29
Not yet, but I plan to make an appointment	3.57	Don't know	5.71
No, do not plan to vaccinate	6.58	Refused	1.31

OVER 5 VACCINATION	YES, ALL OF THEM (%)	SOME OF THEM (%)	NONE OF THEM (%)	DON'T KNOW (%)	REFUSED (%)
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*Have your household members 5 years and older received at least one dose of a COVID-19 vaccine?*

74.58      10.40      11.10      1.11      2.82

BOOSTER DOSE(S)	PERCENT HOUSEHOLDS (%)	PERCENT HOUSEHOLDS (%)
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*If anyone in your household is vaccinated but has not yet received their booster dose(s), what is the primary reason?*

Safety concerns	2.34	Ineligible	3.10
Side effects	1.43	Other	10.09
Trust issues	4.04	Don't know	6.34
Vaccine is not effective enough	0.95	Refused	4.52
Inconvenient to receive it	4.44	N/A – All household members are boosted	52.65
Don't feel it's needed	10.10		

REASON FOR VACCINATION	PERCENT HOUSEHOLDS (%)	PERCENT HOUSEHOLDS (%)
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*For vaccinated household members, what was the most important reason they chose to get vaccinated?*

To protect ourselves	37.18	To meet work/other requirement	9.26
To protect loved ones/ the community	26.14	N/A – no vaccinated household members	9.43
To gather safely with friends and family	0.48	Other	9.31
To travel again	3.87	Don't know	1.03
		Refused	3.29

UNVACCINATED REASONS	PERCENT HOUSEHOLDS (%)	PERCENT HOUSEHOLDS (%)
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*For unvaccinated household members, what was the most important reason they chose not to get vaccinated?*

Safety concerns	7.57	Ineligible	1.03
Side effects	3.57	Other	0.95
Trust issues	4.80	Don't know	2.81
Vaccine is not effective enough	0.00	Refused	3.21
Inconvenient to receive it	0.56	N/A – All household members are vaccinated	69.59
Don't feel it's needed	5.90		

# Concluding Remarks

The 2022 Kauai CASPER collected valuable data about the impact of the COVID-19 pandemic on Kauai households, how the community perceives our various COVID-19 response efforts, as well as household preparedness. This data will be used to inform state and county emergency response plans and enable the Kauai District Health Office to better meet community needs post-disaster and in future disease outbreaks.

Preliminary recommendations are provided below; further recommendations will be provided in the Kauai 2022 CASPER final report upon release. All CASPER preliminary and final reports are available on the Kauai District Health Office's website at [www.health.hawaii.gov/kauai](http://www.health.hawaii.gov/kauai).

## Preliminary Discussion

- Two years into the pandemic, the majority (69%) of Kauai households remain very concerned or somewhat concerned about their household members getting sick with COVID-19 unchanged from 70% in April 2020. The majority (85%) of Kauai households have all members vaccinated (75%) or some members vaccinated (10%), but only (53%) have been boosted. The persistence of this level of concern indicates that COVID-19 remains a significant issue for the community. As new variants emerge and spread, and vaccines are perfected, ongoing response efforts and communications by KDHO and community leaders are essential. Public messaging should focus on the easy steps people can take to protect themselves and others such as: wearing masks, avoiding crowds, staying up-to-date on COVID vaccines, and staying home when sick. Additionally, public messaging should continue to focus on the ability of vaccines to prevent severe disease and death, even in the face of new variants. The development of vaccines targeted towards new variants, or that target more stable parts of the virus, is vital to strengthen public confidence and ensure continued adoption of federal COVID-19 vaccine recommendations.

- The percentage of households reporting having experienced emotional distress related to the pandemic rose slightly from 32% in April 2020 to 36% in August 2022. On Kauai, it appears that most households that experienced emotional distress during the pandemic did so early on, likely as a result of the enormous impact travel restrictions had on our economic sector, which relies heavily on tourism, and possibly as a result of the many unknowns in the early months of the pandemic. Even though the majority (78%) of affected households reported they knew where to seek help, only 16% actually sought assistance. Access to mental and behavioral support services expanded significantly during the pandemic and, yet, many households that might have benefitted from those services did not seek assistance. An enormous stigma regarding seeking mental health support exists in Hawaii. Additional efforts are necessary to start breaking down the cultural barriers and stigma against seeking assistance.
- The percentage of Kauai households who are very concerned or somewhat concerned about their ability to pay their next month's rent/mortgage declined from 34% in April 2020 to 17% in August 2022. The majority of Kauai households reported that their current annual income is about the same (60%) or higher (12%) than it was pre-pandemic. Although most Kauai households seem to have returned to their pre-pandemic economic state, 13% reported that their current household income is much lower than it was pre-pandemic. The abrupt end of federal and state assistance has left a small percentage of Kauai households in a difficult economic position. It is important that we continue to work with residents to ensure access to available support services (e.g. food banks, WIC/SNAP, section 8 housing). However, escalating cost-of-living (especially housing) is a statewide issue and continued work with county, state, and federal policy-makers is needed.
- The vast majority (83%) of Kauai households reported that they continue to think it is very important (47%) or somewhat important (36%) to wear a mask indoors in places other than their home even though Hawaii's indoor mask mandate ended in late March 2022. This indicates that in the absence of legal mandates, the majority of Kauai residents will continue to follow public health recommendations intended to mitigate the spread of COVID-19.



- Most households rated Kauai's response to the pandemic as good or very good on a likert scale of 1 to 5 with 1 representing "very poor" and 5 representing "very good". The lowest rating (3.85) was associated with case investigation and contact tracing, which also had the highest percentage of "don't know" responses. For those who had never had COVID, they often felt unable to provide a rating on this topic. The highest rating was associated with COVID-19 testing availability (4.45), followed closely by COVID-19 public information (4.44) and vaccine rollout and availability (4.42). This finding is remarkable given how controversial COVID response efforts have been nationwide. The highly rated public communication efforts were instrumental to ensuring the success of the other areas of our response, including vaccine rollout and testing availability. This was only possible through the strong partnership between the County of Kauai and its a reason we should be looking at strengthening KDHO's internal communications capacity for future pandemic response.
- The majority (85%) of Kauai households have all members vaccinated (75%) or some members vaccinated (10%). For vaccinated households, the primary reasons for choosing to be vaccinated were: to protect themselves (37%), to protect loved ones/the community (26%), or to meet a work/other requirement (9%). Of the 18.4% of households with children under the age of five, 6.1% have already vaccinated them (2.5%) or have an appointment (3.6%). 6.6% do not plan to vaccinate them and 5.7% don't know. Put simply, one third of Kauai parents intend to or have already vaccinated their children under five, one third do not plan to vaccinate, and one third is undecided. Additional effort is needed to ensure that parents have access to all of the information they need regarding COVID-19 vaccines for children under five. The most trusted source of that information and sounding board for questions is likely to be their child's pediatrician, with whom they already have an established relationship. Since the majority of COVID-19 mitigation measures were dropped in Hawaii classrooms for Fall 2022, it's even more important that parents consider vaccination for their school-aged kids.
- Questions on emergency preparedness and evacuation plans were not assessed in depth in this report. The final report, which will be released in September, will look at trends in preparedness across the five years (2017-2022) that preparedness CASPERs have been conducted on Kauai.